PROJECT: VENUE BOOKING & REVIEW SYSTEM

System Request

Project Sponsor: Kamal Quadir, CEO, bKash

Business Need:
This project has been initiated to allow users to book venues without letting them go through the time-consuming and tiresome process of personally searching and booking a venue. Therefore, it will make the life of the user easier and convenient where they can check and book their desired place through the push of a button and share their experiences.

Business Requirements:
The functionality the system should have includes the following:

- Maintain records of all event venues within Dhaka city
- Allow users to transfer funds through online means
- Maintain records of previous users who have booked an event
- Provide time slots and an estimate of the rent cost for a venue
- Allow users to use the system from anywhere that has an internet connection
- Provide the availability status of the venues at all times
- Provide images of the venue's interior and exterior
- Allow users to post reviews about their experiences of their past bookings

Business Value:
Conservative estimate of tangible value to the company includes:-

- 2% fixed commission for each venue booked by users (for 500000 BDT rent value,10000 BDT commission)
- Ad revenue (800-1600 BDT per day)

Special Issues or Constraints:

- Getting approval of various venue manager to collaborate with us
- Real time updates of venue availability status
- Secure transfer of funds

Project Feasibility Analysis

Technical Feasibility:

Technical feasibility depends on whether or not we can actually build the project which includes taking into consideration a multitude of factors such as the project's size, number of participants, the allocated time for completion, integration of the system with the existing technology etc. and as such the system at hand should be feasible technically.

Risk regarding familiarity with a venue renting application is moderately high:

- The team is knowledgeable about money earned through ad revenue and commission but have very little experience regarding these specific earning methodologies.
- The people working on the project have very little 1st hand experience of how a venue renting system might work.
- There are websites that show information and reviews of some venues for hire but there does not seem to be any android based application for it let alone one that allows people to book venues.

Risk regarding familiarity with the technology is moderately low:

- The people involved in the making of this system have moderate knowledge of android based development and database usage.
- Everyone has enough knowledge of the technology required to build this project as this requires mostly android based smart phones and computers that can run android development software such as Android Studio.

Risk regarding the size of the project is moderate:

- The project team will consist of only 5 people.
- The project timeframe should be large enough but can be a bit unpredictable because even though as of now the app does not need to be up and running to maintain a competitive edge on the market other such apps might be developed by a different team if taken too long.

The compatibility issue with existing technical infrastructure needs work:

- While there is no existing database for the system one can easily be created to get the project going.
- A cloud hosted database can be used for initial release but in the future servers need to be bought or hired to store data.
- An appropriate ISP needs to be hired which can scale its services to accommodate the system in case of a locally hosted server.

Chances of attracting the stakeholders are moderately high:

- Since this type of online convention center booking services is yet to be rampantly available in our country, our potential stakeholders are expected to be highly intrigued with our project and the promise and potential that it delivers.
- Stakeholders would be drawn into making investments in our project given it's excellent financial prospects which in turn would potentially reward them with high profit.

Economic Feasibility:

This assessment typically involves a cost-benefits analysis of the project, helping organizations determine the viability, cost, and benefits associated with a project before financial resources are allocated. It also serves as an independent project assessment and enhances project credibility helping decision-makers determine the positive economic benefits to the organization that the proposed project will provide. Below is a detailed

cost-benefit analysis (in BDT) of our proposed project, including the ROI (return on investment) and the BEP (break-even point):

	2020	2021	2022	2023	2024	Total
BENEFITS						
Ad Revenue	0	123,300	151,500	186,400	210,600	671,800
Commission	0	274,800	269,400	270,500	341,900	1,156,600
Total Benefits	0	398,100	420,900	456,900	552,500	1,828,400
DEVELOPMENT COST						
1 server	32,000	0	0	0	0	82,000
Software licenses	13,000	0	0	0	0	55,000
Server software	3,500	0	0	0	0	10,500
Development labor	365,000	0	0	0	0	365,000
Total Development Cost	(413,500)	0	0	0	0	(413,500)
OPERATIONAL COST						
Hardware	52,400	61,100	87,100	108,500	129,400	438,500
Software	1,900	2,500	4,500	5,600	7,500	22,000
Operational labor	69,300	89,000	89,000	133,400	154,400	535,100
Total Operational Cost	(123,600)	(152,600)	(180,600)	(247,500)	(291,300)	(995,600)
Total Costs	(537,100)	(152,600)	(180,600)	(247,500)	(291,300)	(1,409,100)
Net profit	(537,100)	245,500	240,300	209,400	261,200	447,300
Cumulative Net Profit	(537,100)	(291,600)	(51,300)	158,100	419,300	

Therefore, the ROI and BEP will be:

ROI (Return on investment): 29.7%

BEP (Break-even point): 2.24 years.

Functional Requirements

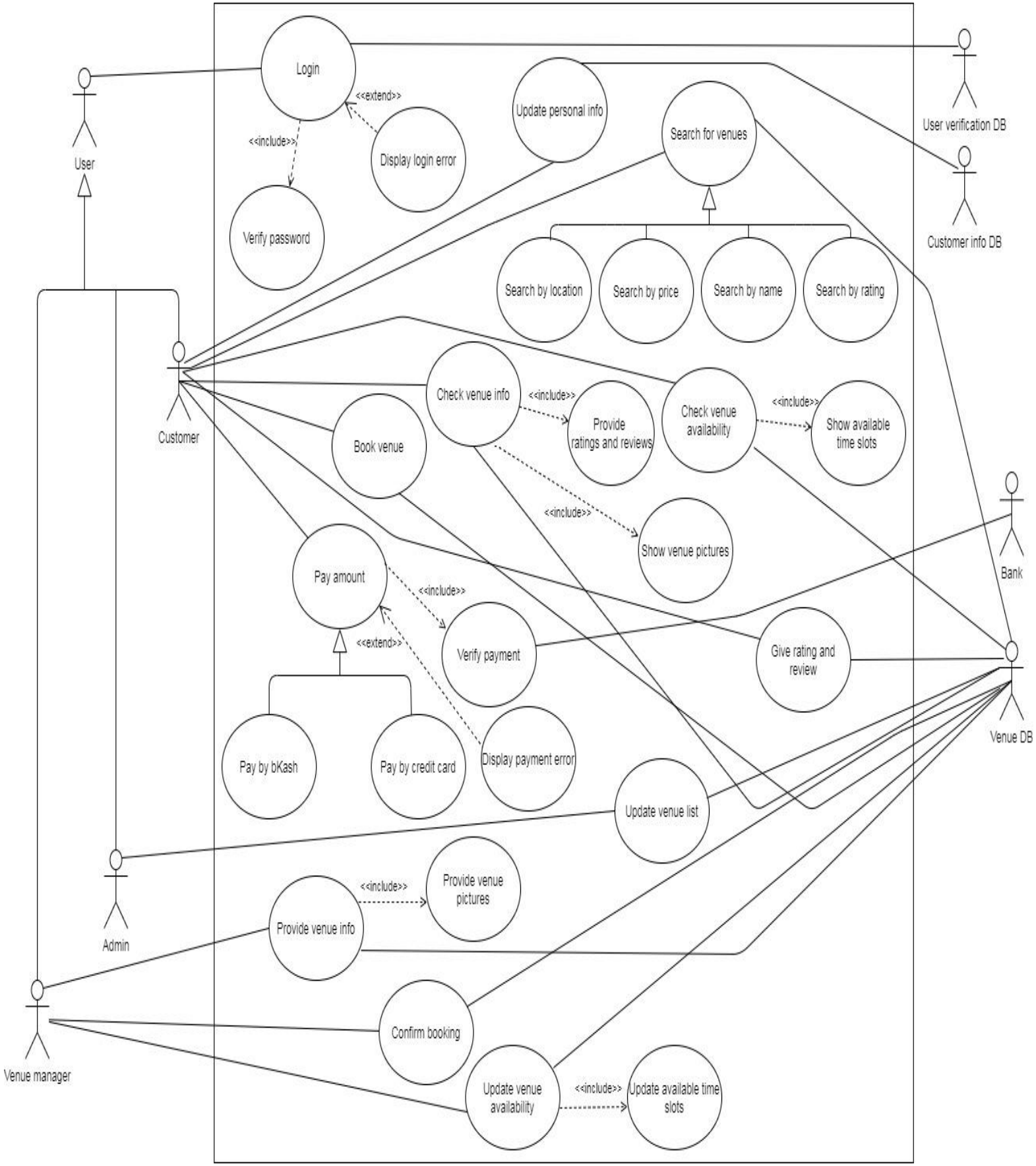
1. Customers can rate and give review on venues.
2. Allows online payment for venue bookings through bKash and credit cards.
3. Customers can check venue info which also provides venue pictures and ratings and reviews from past bookings.
4. Shows real time venue availability along with open time slots.
5. Customers can search for venues via name, price, location and rating.
6. Customers can update their personal info in their user profile.
7. Allows admin to update the venue list.
8. Allows the venue manager to provide venue info along with the pictures of the venue.
9. Venue manager can update the venue availability.
10. Venue manager can confirm venue bookings made by customers.

Non-Functional Requirements

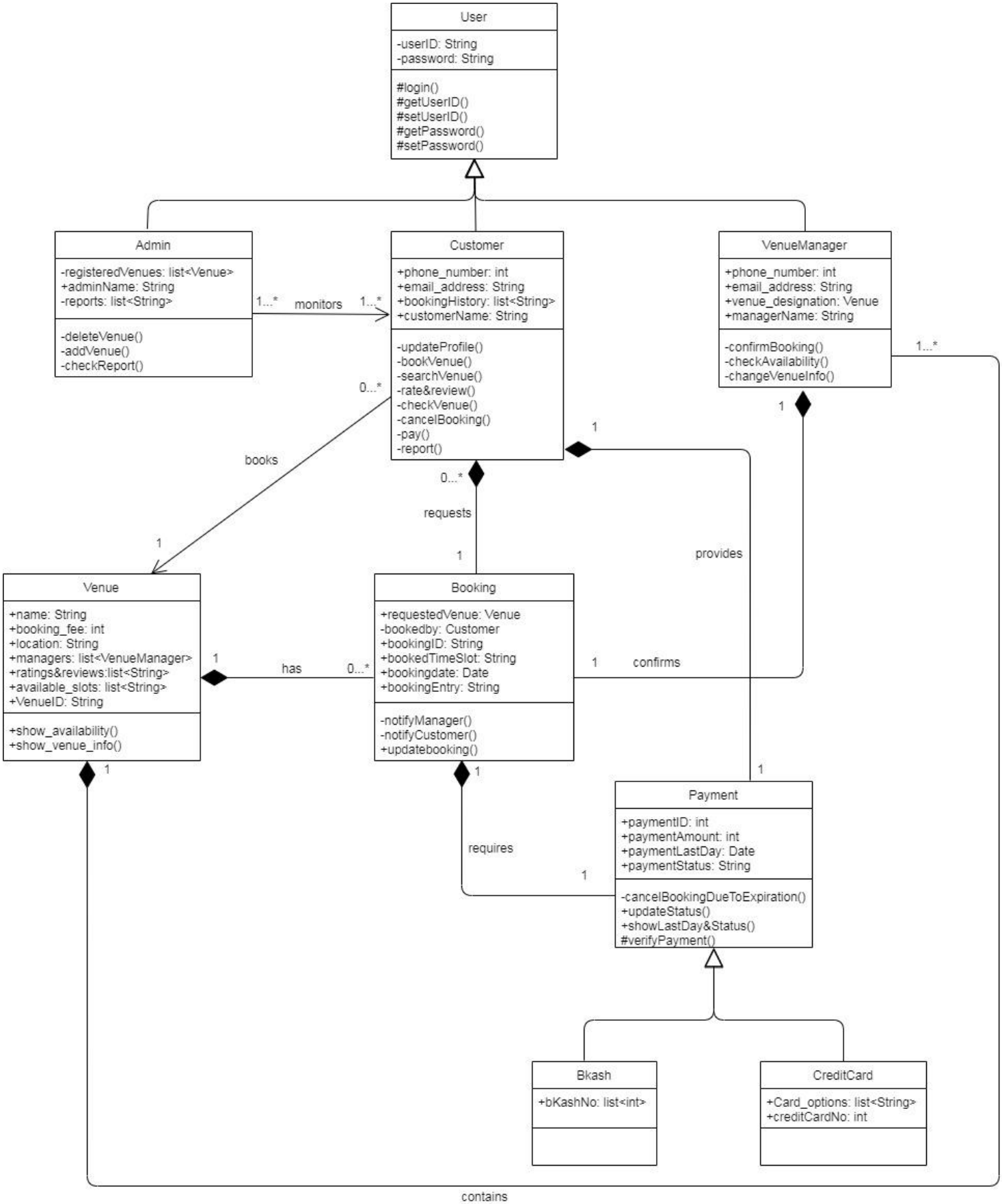
1. Firebase Real-time Database will be used for the alpha testing phase of the application.
2. The application will go on a random 6 hours maintenance period twice every month.
3. Google Maps API will be used for map functionality.
4. The backend of the application will be developed using Java programming language while the frontend will be developed using XML.
5. The application will for the time being will run on Android OS based devices.
6. A Google account will be needed as the app for the time being can only be downloaded through the Google Play Store.
7. Average startup time for the application must not exceed 3 seconds.

8. Average response time for the application must not exceed 2 seconds.
9. Application size must not exceed 45 MB.
10. 24/7 payment enabled with a 1-week payment deadline.

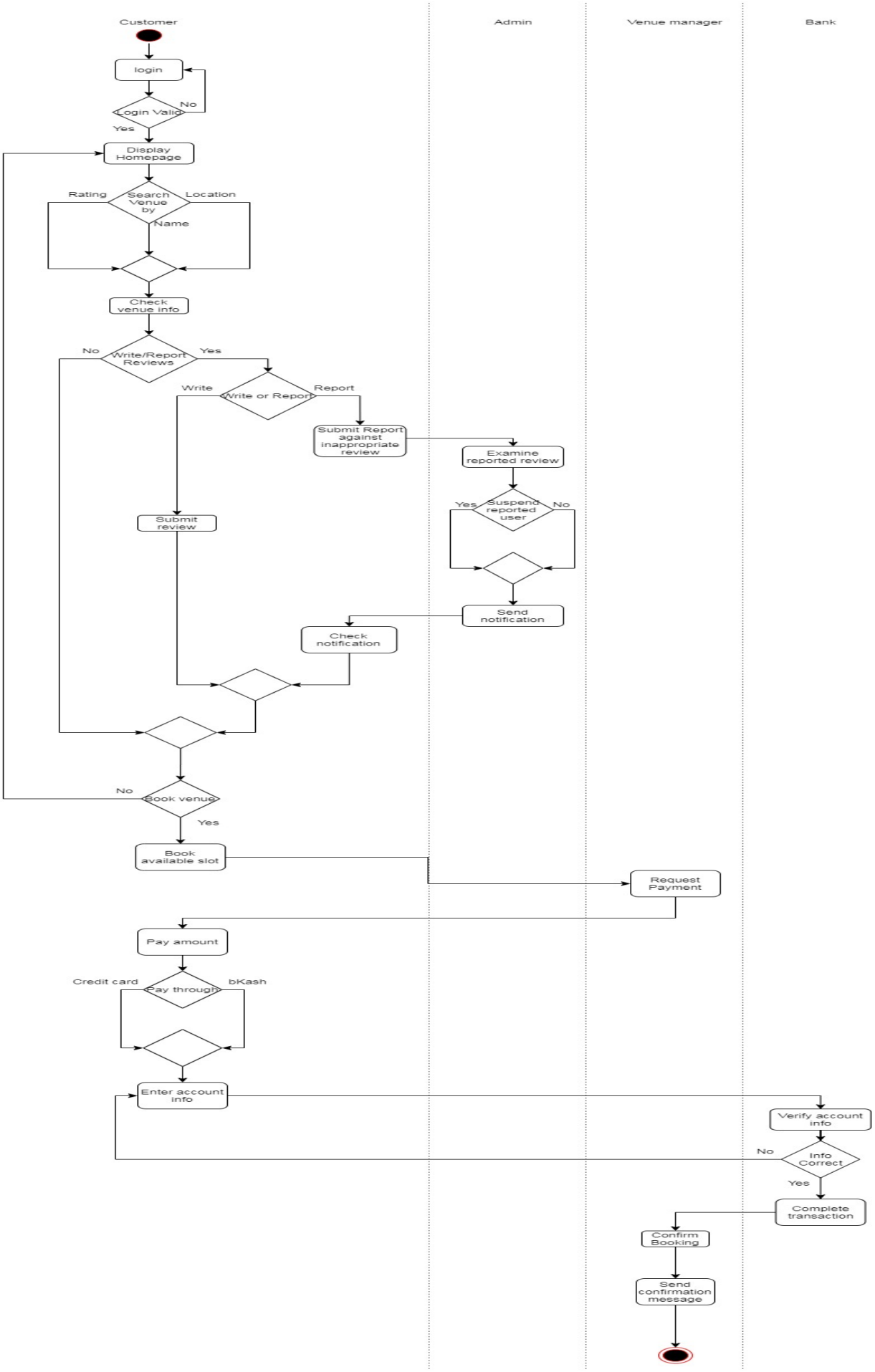
Use case diagram



Class diagram

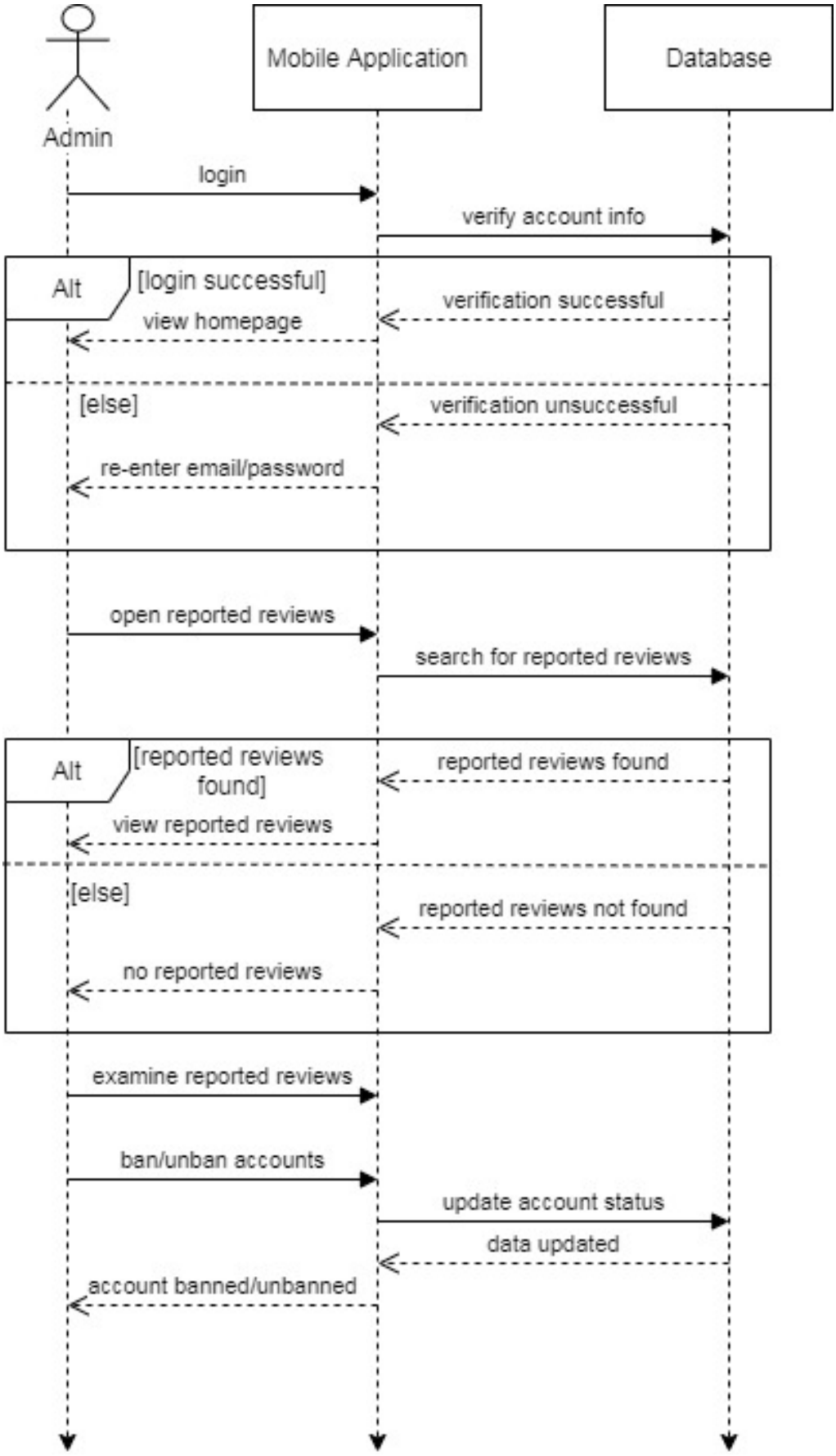


Activity diagram

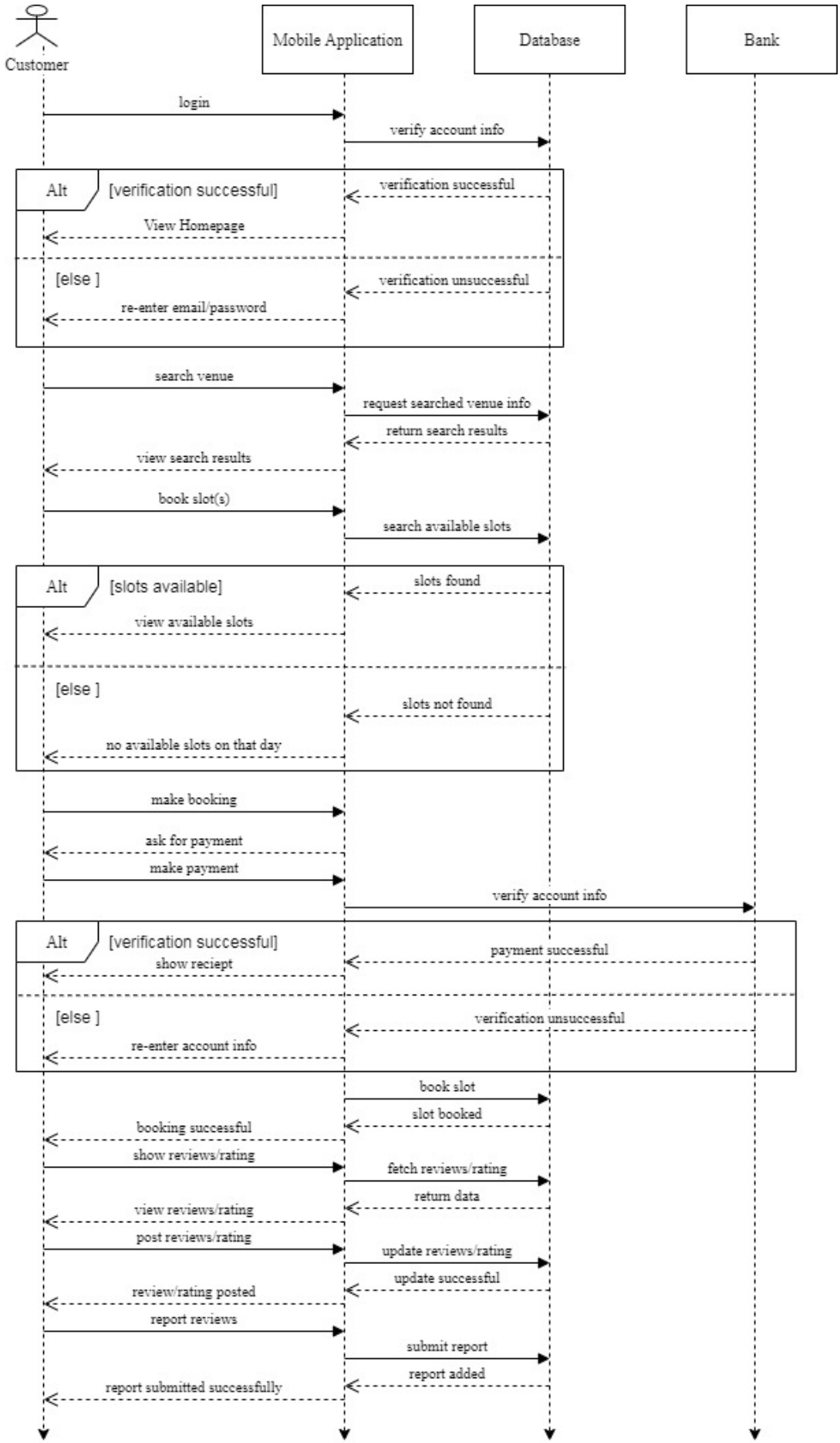


Sequence diagram

Admin:



Customer:


Customer
Mobile Application
Database
Bank
login
verify account info
Alt
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verification successful
View Homepage
[else]
verification unsuccessful
re-enter email/password
search venue
request searched venue info
return search results
view search results
book slot(s)
search available slots
Alt
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make booking
ask for payment
make payment
verify account info
Alt
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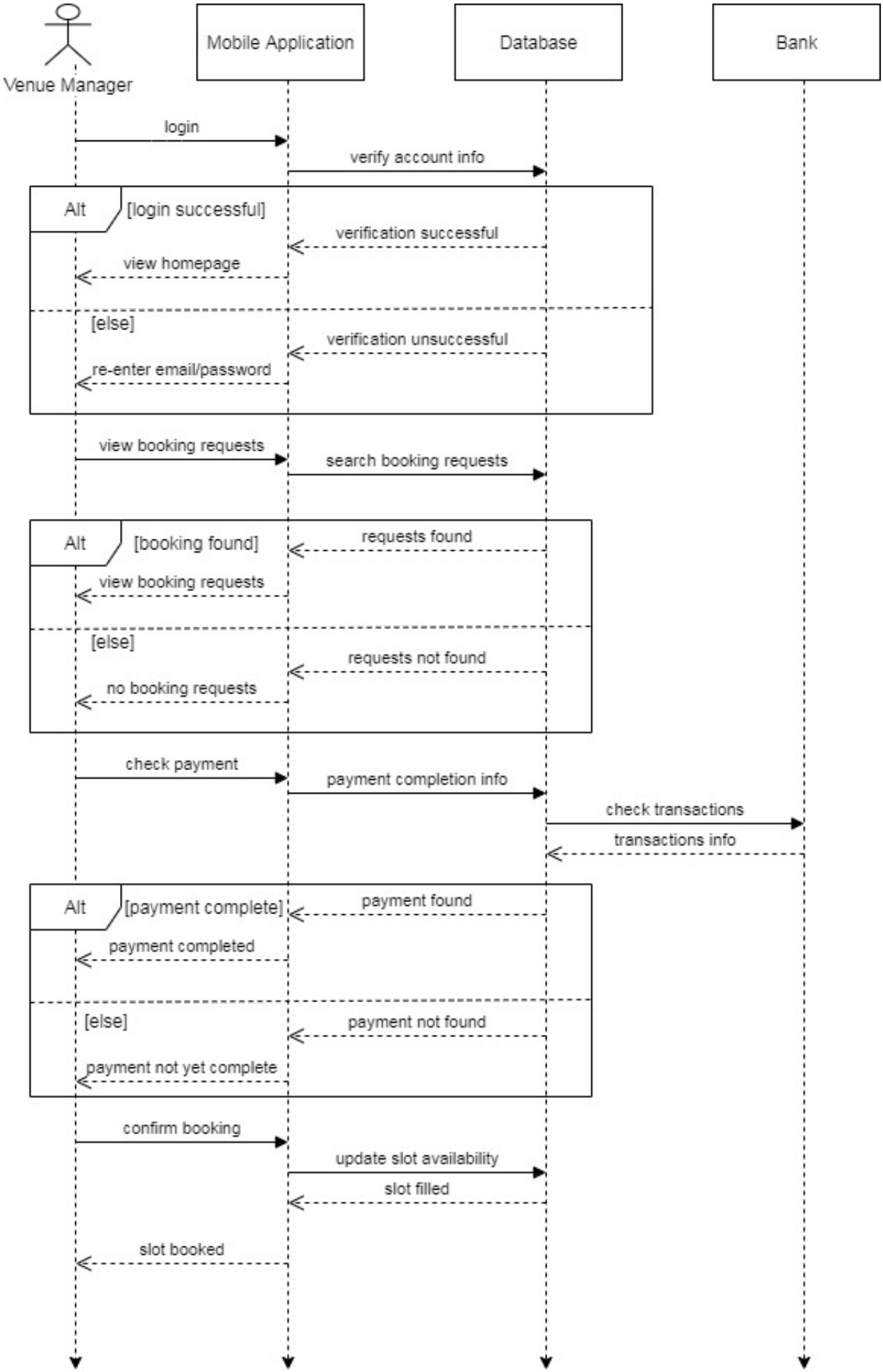
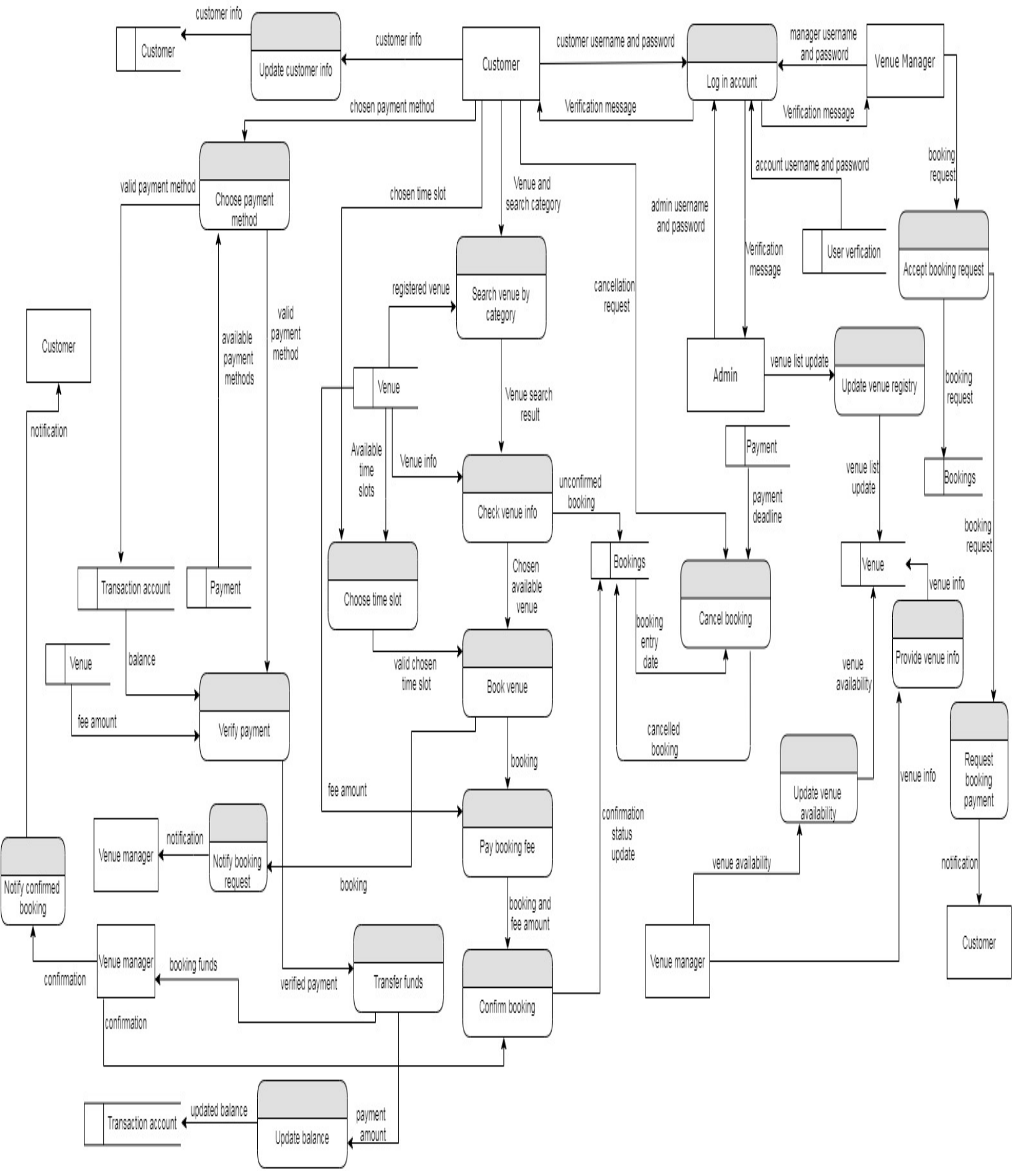
re-enter account info
book slot
slot booked
booking successful
show reviews/rating
fetch reviews/rating
return data
view reviews/rating
post reviews/rating
update reviews/rating
update successful
review/rating posted
report reviews
submit report
report added
report submitted successfully

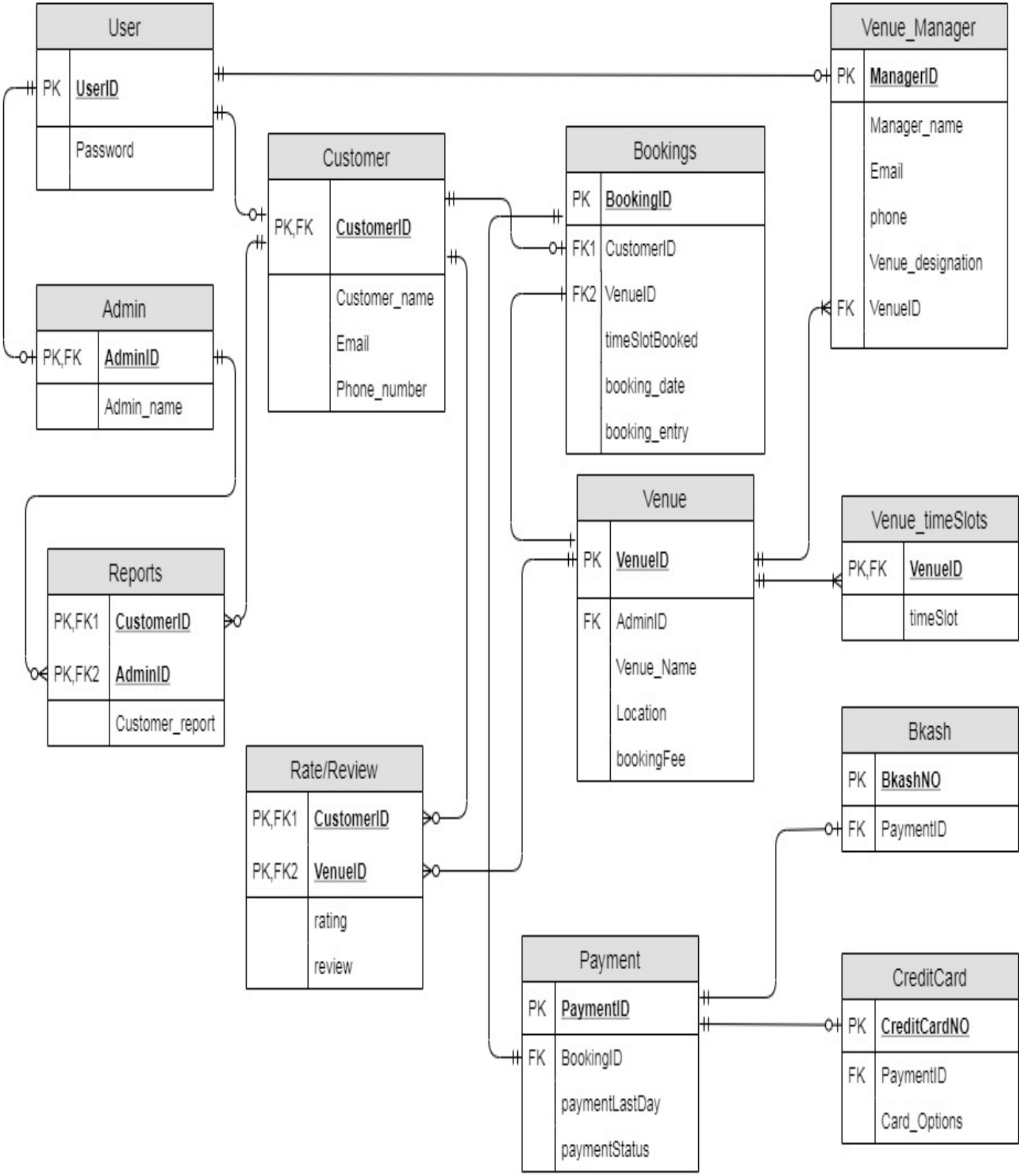
Venue manager:



Data flow diagram (DFD)



Entity relationship diagram (ERD)



Windows navigation diagram (WND)